ACM Research, Inc.

November 2024 Investor Presentation

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Company References. As used in this presentation, “ACM Shanghai” refers to ACM Research (Shanghai), Inc., and “ACM Research” refers to ACM Research, Inc. and its subsidiaries, including ACM Shanghai and ACM Research Korea CO., LTD. “ACM Korea” refers to all operating subsidiaries within Korea, specifically ACM Research Korea CO., LTD and Hanguk ACM CO., IT'D.

ACM Research at a Glance

- **Multi-product supplier of semiconductor equipment** to leading global semiconductor manufacturers
- **Differentiated technology** improves customer production processes with better yields and reduced chemical consumption
- **More than 498 patents** issued in the U.S., China, Japan, Singapore, South Korea and Taiwan as of 12/31/23
- **State-of-the-art production facilities** in Shanghai and Korea; R&D and Clean room facility in Oregon.
- **Headquartered in Fremont, CA** with more than 1,590 employees globally as of 12/31/23

Cleaning

Flagship (SAPS, TEBO, Tahoe, Bevel Etch, SPM)

Semi-critical

ECP, Furnace & Other

Ultra ECP ap

Ultra ECP map

Ultra ECP ap-p

Ultra Fn Furnace

NEW Products: Track and PECVD

Track

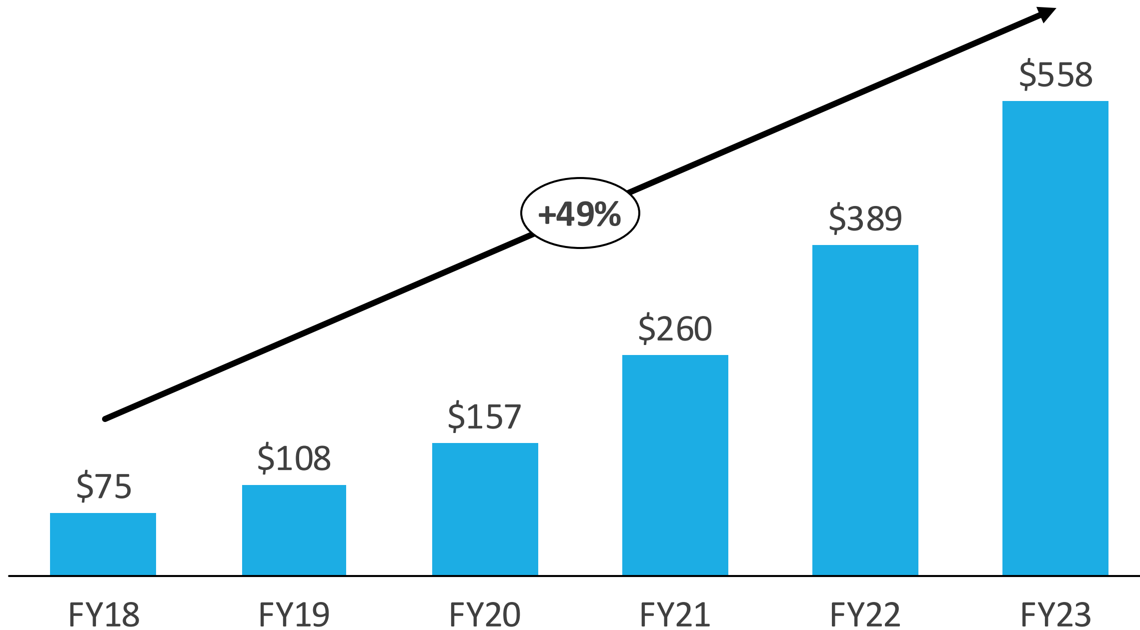
PECVD

Advanced Packaging & Other

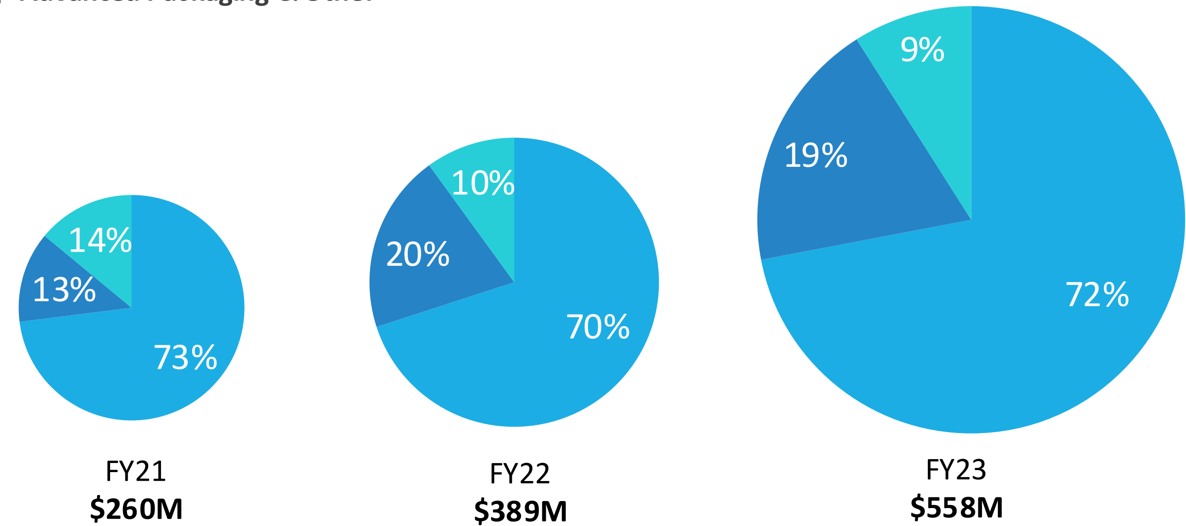
Scrubbers, coaters, developer tools, plating tools, tape frame cleaning, wet stripping, wet etching, panel level flux clean, and stress-free polishing systems, and other parts and services

Financial Highlights

Total Revenue



Product Mix



1. Cleaning: Single wafer cleaning, Tahoe and semi-critical cleaning equipment
2. ECP, Furnace & Other: ECP (front-end and packaging), furnace and other technologies
3. Advanced Packaging & Other: Advanced Packaging (excluding ECP), services & spares

ACM Research achieved 49% revenue CAGR over past 5 years and has diversified its product mix into new product categories

History of Innovation and Customer Design Wins

- **1998** – Dr. Wang establishes ACM Research in Silicon Valley
- **2006** – Establishes ACM Shanghai
- **2013** – SK Hynix places first major production order for SAPs
- **2015** – YMTC, SMIC, and HLMC place SAPS orders
- **2017** – Ships TEBO demo unit to HLMC
- **2017** – Completes U.S. IPO on NASDAQ - Nov. 2017
- **2018** – Opens 2nd production facility in Chuansha, China, in Sep. 2018
- **2018** – Announces 1st P.O. for Tahoe tool
- **2019** – Ships Tahoe & ECP eval tools to new DRAM customer
- **2019** – U.S. follow on capital raise Aug. 2019
- **2020** – Launches SFP, furnace and semi-critical cleaning products
- **2021** – 4 evaluation agreements with major industry players, including a major U.S. semiconductor manufacturer
- **2021** – ACM Shanghai STAR Market IPO Nov. 2021
- **2022** – Launches Ultra Pmax™ PECVD and Ultra Track Coater/Developer ArF products
- **2022** – Evaluation agreement with a major European semiconductor manufacturer
- **2023** – ECP & Furnace segment revenue $100+ million 2023
- **2024** – Major performance breakthrough for Tahoe Tool
- **2024** – Lingang R&D and production facility Opening Ceremony Oct. 2024
- **2024** – Oregon/US R&D and clean room facility lab purchased Oct. 2024

Global Semiconductor Capital Equipment Supplier

ACM Research HQ
Nasdaq: ACMR

Europe Sales & Services

ACM Shanghai
R&D and Manufacturing Center

ACM Korea
Research Institute & Manufacturing Center

Oregon R&D and Clean-Room Facility

Shanghai R&D Center (Zhangjiang)

Shanghai Asia-Pacific Manufacturing Center >200,000 ft² (Chuansha)

Lingang R&D and Production Center >1.4 million ft² (Lingang)

Tier 1 Customer Base

Front-End Customers

- ACM Research 2023 Revenue %: 18%
- Mainland China's largest foundry
- Tier-one customers include Qualcomm, Broadcom and Texas Instruments (1)

- ACM Research 2023 Revenue %: 15%
- A semiconductor integrated circuit developer in China

- ACM Research 2023 Revenue %: 13%
- New China-based entrant to DRAM industry

- Major new entrant into NAND flash and DRAM industry
- Innovative Xtacking 2.0 unleashes potential of 3D NAND (2)

- Leading advanced foundry in China

Tier 2 and 3 China-based IC Manufacturers

- Tier 2 includes Hangzhou Silan and 4 China-based customers
- Ordered a range of semi-critical tools including the scrubber, wet etch, and backside wafer etching tool, auto wet bench, SAPS-II cleaning tool and Cu interconnect ECP map tool.
- Tier 3 includes a handful of companies investing in new capacity in IoT, EV, AI

Back-End Customers

- Largest bumping house in China and leading WLCSP production base
- Subsidiary of OSAT company JCET
- Owns one of the most advanced packaging technology R&D service platforms(3)
- Global customer base with exposure to the U.S., Western Europe and Asia

- Leading OSAT provider – #4 globally(4) and top 3 in China(4)
- Fastest growing OSAT provider globally with ~30% year-over-year revenue growth in 2022(4)
- Six production facilities serving more than half of the top ten global semiconductor manufacturers(4)

(1) Source: SMIC website. (2) Source: YMTC Press Release. (3) Source: JCAP Company Profile. (4) Source: TFME website.

Innovative Product Introductions Expanding Serviceable Available Market ("SAM")[1]

Estimated 2023 SAM of $16 billion addressed by ACM Research's current product portfolio

PECVD | $4.3B

Introduced late 2022

Track | $2.5B

Introduced late 2022

Furnace | $2.2B

2020: Furnace, LPCVD, Vacuum Anneal, High-Temperature Oxidation

2022: Furnace ALD

Plating | $1.2B

2017: ECP ap, 2019: ECP MAP, 2020: ECP TSV, 2024: ECP ap-p

Advanced Packaging | $0.9B

2014: Advanced Packaging, 2024: FOPLP Clean and Bevel Etch

Cleaning | $5.2B

2009: SAPs, Tahoe, TEBO, SPM, Semi-critical

2022: CO2 & Advanced IPA Dry
2021: High-temp SPM

[1]Source: Gartner - "Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 4Q23 Update" (December 2023) and Company Estimates

Long-Term Target for $3B in Revenue

Advanced Packaging & Other
ECP, Furnace & Other
Cleaning

2017	2018	2019	2020	2021	2022	2023	2024 Guidance	Long-Term Target
$37M	$75M	$108M	$157M	$260M	$389M	$558M	$735M Midpoint	> $3B*

+53.6%

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* *ACM Research internal target, for internal planning purposes only, not a projection or estimate of actual or future revenue*

Long-Term Target Composition

Mainland China	ACM Research SAM[1]	China SAM[2]	Share[3]	ACM Research Revenue
Cleaning	$5.2B	$1.6B	55%	$850M
ECP	$1.2	$0.4	55%	$200
Furnace	$2.2	$0.7	15%	$100
PECVD	$4.3	$1.3	15%	$200
Track	$2.5	$0.8	10%	$75
Adv Pkg (ex ECP)	$0.9	$0.3	n/m	$50
Service & Spares	n/a	n/a	n/m	$50
	$16B	**$5B**	-	**$1.5B**

RoW	ACM Research SAM	Non-China SAM[1]	Share[3]	Revenue
Cleaning	$5.2B	$3.6B	20%	$725M
ECP	$1.2	$0.8	15%	$125
Furnace	$2.2	$1.5	10%	$155
PECVD	$4.3	$3.0	10%	$300
Track	$2.5	$1.8	10%	$175
Adv Pkg (Ex ECP)	$0.9	$0.9	n/m	$50
Service & Spares	n/a	n/a	n/m	$50
	$16B	**$11B**	-	**$1.5B**

ACM Research China + RoW Revenue **>$3.0B**

[1]Source: Gartner - "Forecast: Semiconductor Wafer Fab Equipment, Worldwide, 4Q23 Update" (December 2023) and Company Estimates:
- 2023 Gartner WFE market of $93B
- ACM Research SAM determined by management's estimated product coverage

[2]China SAM assumes China is 30% of Global WFE
[3]Share refers to ACM Research market share target

Growth Strategy

Growth at Existing Customers

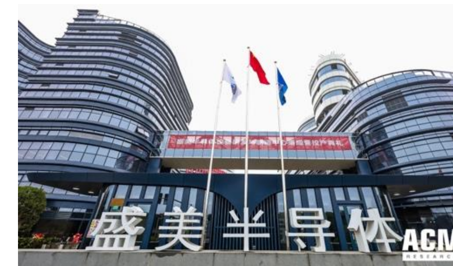
- Continue winning share at existing customers
- Continued China fab expansion, particularly in mature nodes
- Accelerating ECP and furnace product cycles
- Solid evaluation pipeline for Track & PECVD

International Expansion

- SAPS cleaning tool qualified for revenue by a large US manufacturer Q4'2023
- Delivered SAPS evaluation tool to major Europe-based global semiconductor manufacturer in Q3'2023
- Expanding sales & services teams in U.S., Europe, Korea and SE Asia
- Purchased 39,500 sq. feet facility including 5,200 sq. feet clean room in Oregon
- Received orders for wafer-level packaging tools from U.S. Customer and R&D Center, with delivery scheduled for 1H 2025

New Capacity

- Opening of new R&D and production facility in Lingang, China
- Moved into new headquarters in Zhangjiang Shanghai, Silicon Valley of China
- Korea R&D and production facility to support international expansion



New Products

- Broad product portfolio covering 90%+ of cleaning process steps including SAPS, TEBO, Tahoe, semi-critical, SPM, and Super-critical Co2 dry.
- Plating for front and back end, furnace and semi-critical tools
- Added Track & PECVD product categories at end of 2022 that doubled ACM Research SAM to $16 billion
- Launched new panel tools –plating, cleaning, bevel etching –to address fan-out panel level packaging market
- Major performance breakthrough for flagship Ultra C Tahoe Cleaning Tool

Q3 2024 Summary

Q3 2024 Financial Results

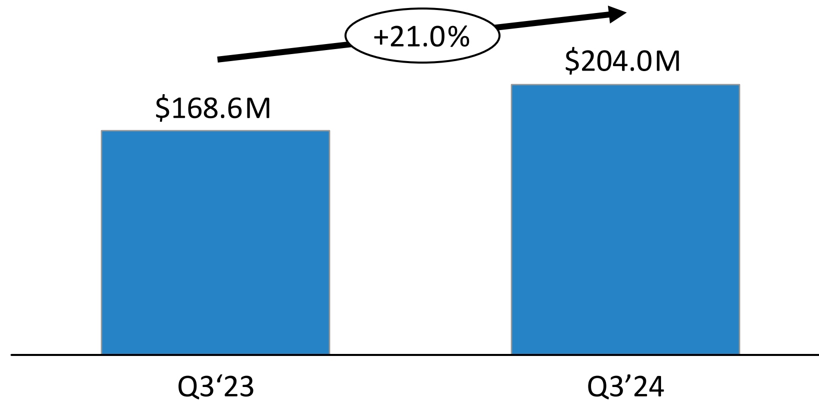
- $204.0 million revenue (up 21% y/y); total shipments of $261 million (up 23% y/y)
- 51.4% GAAP gross margin (versus 52.5% in Q3 2023)
- 51.6% non-GAAP gross margin (versus 52.9% in Q3 2023)
- $44.2 million GAAP operating income (21.7% of revenue)
- $56.1 million non-GAAP operating income (27.5% of revenue)
- $0.45 diluted GAAP earnings per share (versus $0.39 in Q3 2023)
- $0.63 diluted non-GAAP earnings per share (versus $0.57 in Q3 2023)

Key Operational Updates

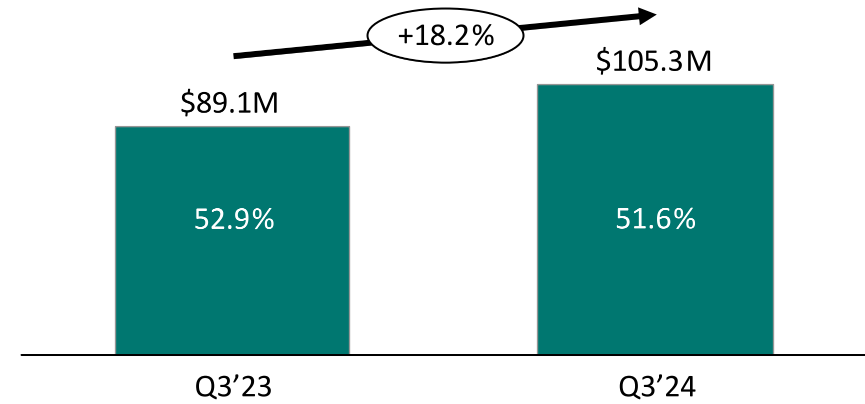
- Major performance breakthrough for flagship Ultra C Tahoe Cleaning Tool for front-end semiconductor manufacturing.
- Launched Ultra C bev-p Panel Bevel Etching Tool for Panel-Level Packaging applications.
- Received orders for wafer-level packaging tools from U.S. Customer and R&D Center, with delivery scheduled for 1H 2025.
- Opening of new R&D and production facility in Lingang, China.
- Completed purchase of R&D and demonstration facility in Oregon, U.S.

Q3 2024 Financial Results

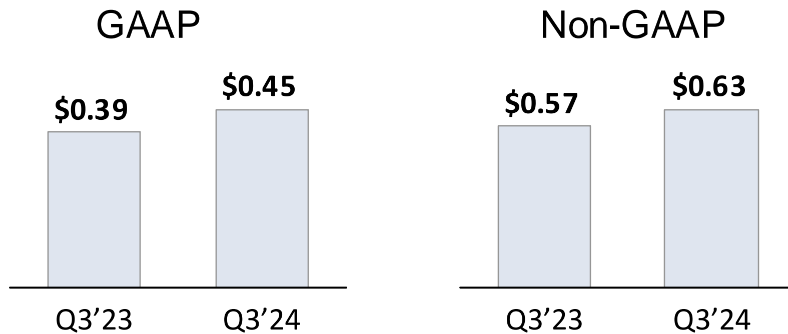
Revenue



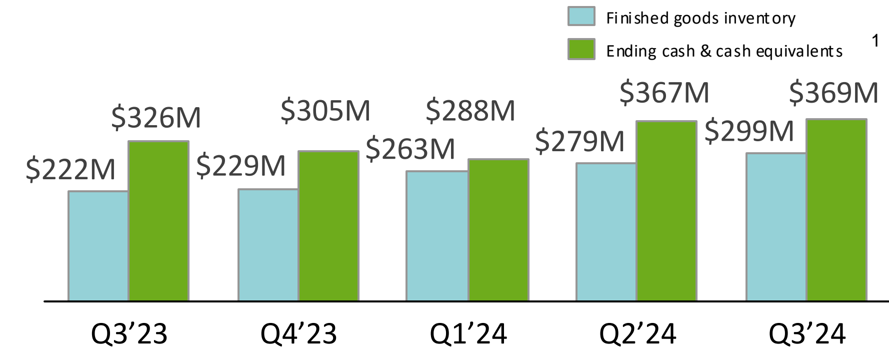
Non-GAAP Gross Profit



EPS



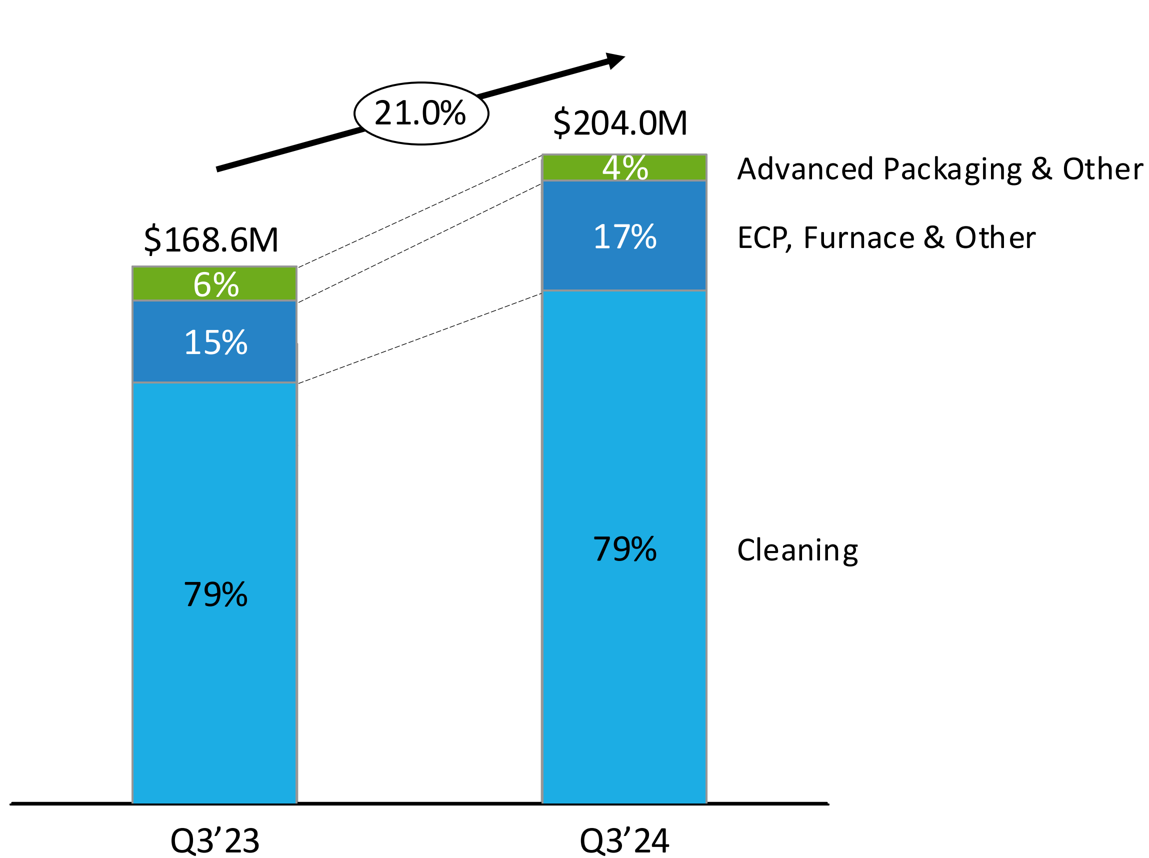
Balance Sheet

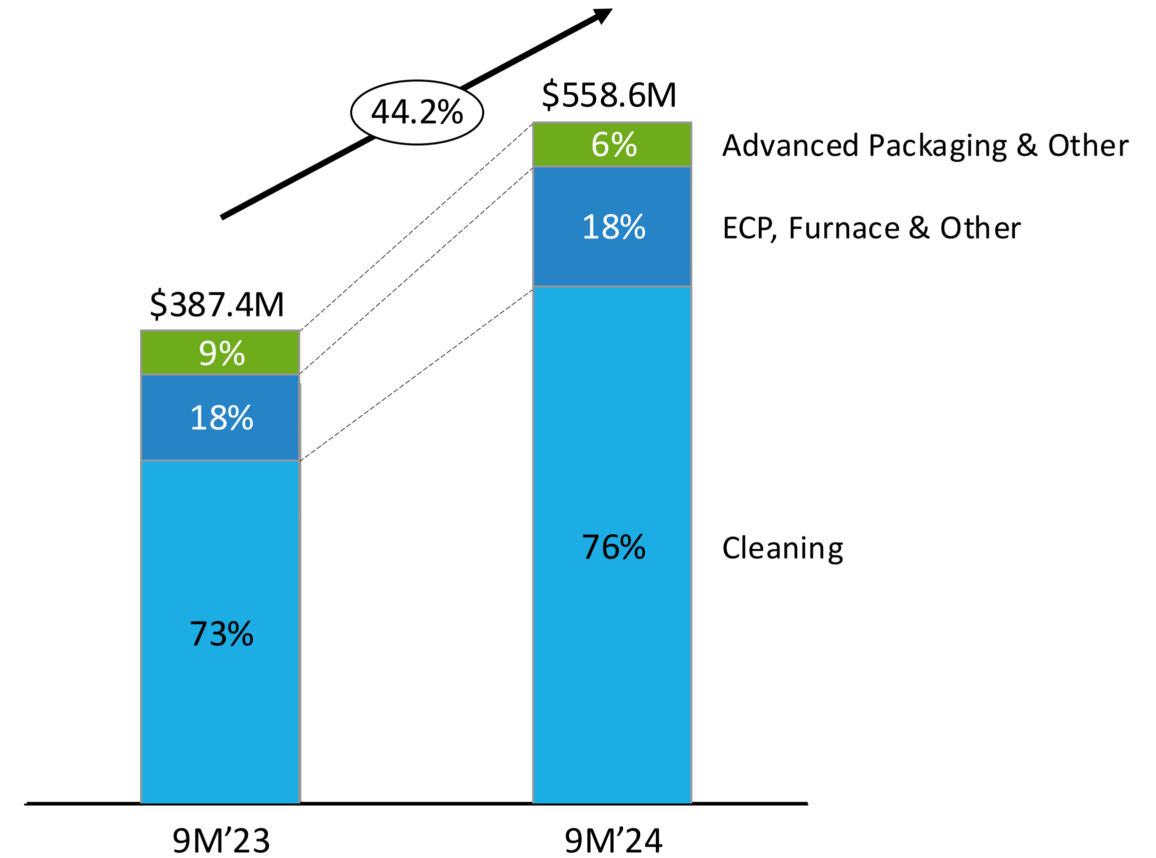


See slide 19 for reconciliation between GAAP and Non-GAAP Gross Profit and EPS

[1] *Including interest bearing time deposits.*

Q3 and YTD 2024 Revenue Detail





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Wafer Cleaning

Flagship Cleaning Tools

SAPS

Megasonic Cleaning for Flat and Patterned Wafer Surfaces

- High efficiency with enhanced process flexibility
- Uniform and consistent results
- Customizable specifications

TEBO

Bubble Oscillation Cleaning for Patterned Wafers at Advanced Process Nodes

- Highly effective, damage-free solution for small and fragile features
- Multi-parameter bubble cavitation control

Ultra – C Tahoe

Hybrid Wafer Cleaning With Significant Cost & Environmental Benefits

- Environmentally friendly - reduces 75% sulfuric acid use vs. conventional tools
- High cleaning performance at low cost

Bevel Etch

Bevel Etching process for 3D NAND , DRAM and advanced logic processes

- Accurate and efficient wafer center alignment for precise bevel etch
- Variable wafer bevel etch/cut accuracy of 1-7mm and good uniformity

Single Wafer High Temp SPM

Single High Temp SPM Cleaning for metal removal and PR Strip at advance node

- Photoresist stripping after high-dose energy implant, wet stripping without using a dry ash process, and special metal film removal processes at advance node

Semi Critical Cleaning Tools

Auto Bench

Batch Wafer Cleaning for a full range of wet technologies across multiple nodes

- ULD advance drying technology addresses challenges in high-aspect-ratio structures
- MCR module delivers high cleaning performance and eliminates cross-contamination

Backside

Backside Clean Tool for wafer device side none contact process

- *Good particle performance and etch uniformity control*
- High throughput above 300 wph

Scrubber

Scrubber Cleaning for efficient front- and backside wet-cleaning applications

- *High throughput,* small footprint *and low cost*
- Small particle removal

Advance Processes

Supercritical CO2 Dry

Supercritical CO2 Dry for advance DRAM processes

- Damage free drying process for high-aspect-ratio structures including Isolation and Storage node

High Temp IPA Dry (UTD)

High Temp IPA Drying for advance Logic processes

- Damage free drying process for small structures and high-aspect-ratio structures
- Associate with customizable Cleaning method for good cleaning performance.

ACM Research's integrated circuit wet cleaning equipment product line covers over 90% of the cleaning process steps

Electroplating

Model	Ultra ECP map	Ultra ECP 3D	Ultra ECP ap	Ultra ECP ap (Cu-Ni-SnAg-Au)	Ultra ECP GIII	Ultra ECP ap-p
Application	Dual-damascene plating (90nm-28nm)	3D/2.5D high aspect ratio TSV	Pillar bump, Solder bump, RDL, Conformal TSV	High-density Fan Out Fine Pitch RDL	RF product 150mm wafer-level packaging	Pillar bump, RDL 510mmx515mm or 600mmx600mm panels
Module	16 chambers	10/12 chambers	24/28 chambers	28 chambers	8/9 chambers	8/20 chambers
	Cu Post-cleaning Annealing	Cu Post-cleaning Pre-wetting	Cu+Ni+SnAg Pre-wetting Post-cleaning	Cu/Ni/SnAg/Au Pre-wetting Post-cleaning Cleaning after Au plating	Cu+Sn/Ag+Ni Au Pre-wetting Post-cleaning	Cu/Ni/SnAg/Au Pre-wetting Post-cleaning Buffer flip, aligner & CCD
Special Features	Impulse local plating	Impulse local plating	Second anode technology	Second anode technology Impulse Au plating	Second anode technology	Horizontal and multi zone process to control corner & edge uniformity

Vertical Furnace

Furnace Tube Classification	Film Type	Process	Temperature Range	Existing ACM Research Product	In Development
Normal Pressure Chemical Vapor Deposition Furnace	Oxidation	Wet oxygen/dry oxygen/nitrogen annealing	700~1200℃	★	
	Annealing				
	Back-end thermal treatment	Copper process thermal treatment	100~450℃		
		Coating and curing			
Low Pressure Chemical Vapor Deposition Furnace	Alloy	Hydrogen/nitrogen thermal treatment	100~450℃	★	
	Silicon deposition	Poly-crystal silicon doping	500~620℃	★	
		Advanced poly-crystal deposition			☆
		No poly-crystal silicon doping		★	
	Silicon oxide	High-temperature silicon oxide	650~800℃	★	
	Silicon nitride	Silicon nitride deposition		★	
Atomic Layer Deposition Furnace	Silicon oxide	Silicon oxide deposition	500~650℃	★	
	Silicon nitride	Silicon nitride deposition			

W*L*H= 1.10m*3.70m*4.05m

Advanced Packaging

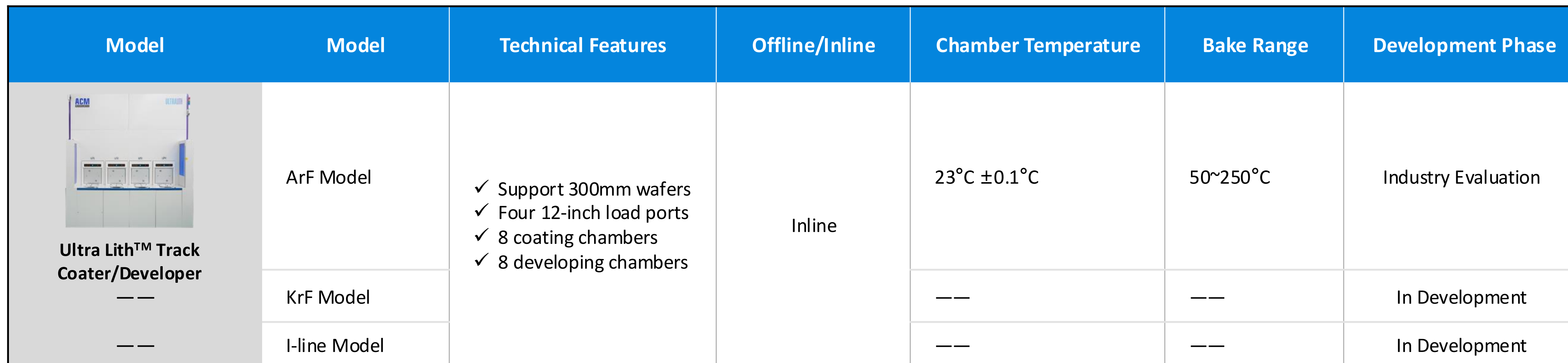
Comprehensive solution for wafer and panel-level advanced packaging wet process

Cleaning	Coating	Developing	Plating	Planarization
Scrubber	Coater	Developer	ECP	SFP

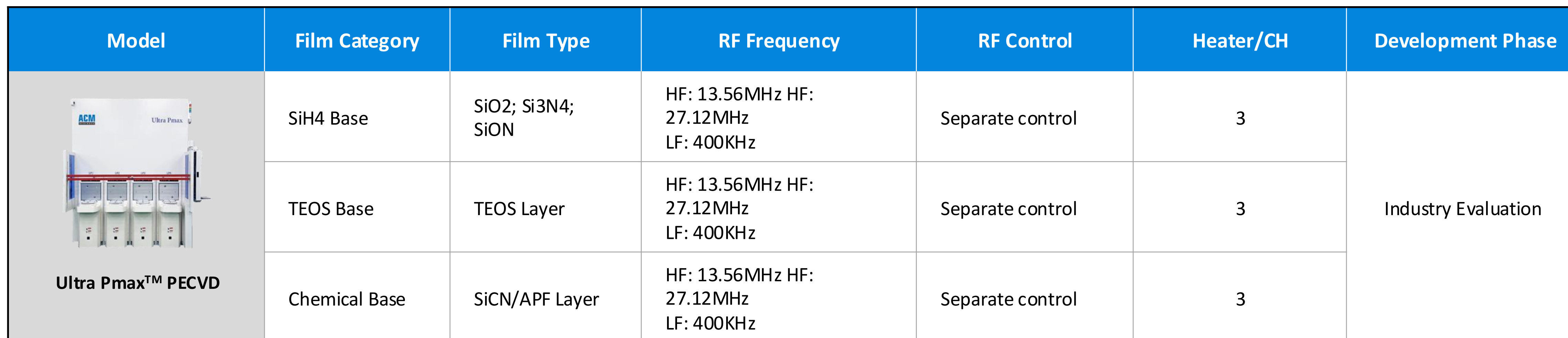
Cleaning	Wet Etching	PR Stripping	Tape Frame Clean
Panel Level Flux Clean	Wet Etcher	PR stripper	Frame Wafer Cleaning

- Make use of ACM Research's technology advantages to expand application in Asia, especially advanced packaging manufacturers in China
- Dedicated to providing diversified and customer equipment meeting customer's designing requirements
- The products include scrubbers, coaters, developers, photoresist strippers, wet etchers, ECPs, and stress-free polishers

Track and PECVD



Model	Model	Technical Features	Offline/Inline	Chamber Temperature	Bake Range	Development Phase
Ultra Lith™ Track Coater/Developer	ArF Model	✓ Support 300mm wafers ✓ Four 12-inch load ports ✓ 8 coating chambers ✓ 8 developing chambers	Inline	23°C ±0.1°C	50~250°C	Industry Evaluation
——	KrF Model			——	——	In Development
——	I-line Model			——	——	In Development



Model	Film Category	Film Type	RF Frequency	RF Control	Heater/CH	Development Phase
Ultra Pmax™ PECVD	SiH_4 Base	SiO_2; Si_3N_4; SiON	HF: 13.56MHz HF: 27.12MHz LF: 400KHz	Separate control	3	Industry Evaluation
	TEOS Base	TEOS Layer	HF: 13.56MHz HF: 27.12MHz LF: 400KHz	Separate control	3	
	Chemical Base	SiCN/APF Layer	HF: 13.56MHz HF: 27.12MHz LF: 400KHz	Separate control	3	

Q3 2024 GAAP to Non-GAAP Reconciliation

	Three Months Ended September 30,							
	2024				2023			
	Actual (GAAP)	SBC	Other non-operating adjustments	Adjusted (Non-GAAP)	Actual (GAAP)	SBC	Other non-operating adjustments	Adjusted (Non-GAAP)
	(In thousands)							
Revenue	$ 203,976	$ -	$ -	$ 203,976	$ 168,569	$ -	$ -	$ 168,569
Cost of revenue	(99,142)	(447)	-	(98,695)	(80,055)	(588)	-	(79,467)
Gross profit	104,834	(447)	-	105,281	88,514	(588)	-	89,102
Gross margin	*51.4%*	*0.2%*	-	*51.6%*	*52.5%*	*0.3%*	-	*52.9%*
Operating expenses:								
Sales and marketing	(15,759)	(2,594)	-	(13,165)	(16,803)	(2,543)	-	(14,260)
Research and development	(27,837)	(3,373)	-	(24,464)	(26,151)	(3,421)	-	(22,730)
General and administrative	(17,054)	(5,467)	-	(11,587)	(12,387)	(4,029)	-	(8,358)
Total operating expenses 1	(60,650)	(11,434)	-	(49,216)	(55,341)	(9,993)	-	(45,348)
Income (loss) from operations	$ 44,184	$ (11,881)	$ -	$ 56,065	$ 33,173	$ (10,581)	$ -	$ 43,754
Unrealized gain (loss) on short-term investments	413	-	413	-	(1,319)	-	(1,319)	-
Net income (loss) attributable to ACM Research, Inc.	**$ 30,904**	**$ (11,881)**	**$ 413**	**$ 42,372**	**$ 25,679**	**$ (10,581)**	**$ (1,319)**	**$ 37,579**
Basic EPS	$ 0.49			$ 0.68	$ 0.43			$ 0.62
Diluted EPS	$ 0.45			$ 0.63	$ 0.39			$ 0.57